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ORIGINAL COMMUNICATIONS.

ART. I.—*A List of the Principal Medical Plants enumerated by Botanists, and known to be growing in Northern Illinois and Wisconsin*; with a slight notice of some of their medical properties. By STEPHEN W. WILLIAMS, M.D., late Professor and Lectures upon *Materia Medica*, Medical Botany, in Dartmouth, N. H., Medical College, and in the Medical University of Willoughby, Ohio, formerly of Deerfield, Massachusetts, now of Laona, Winnebago County, Illinois.

The study of Medical Botany is now engaging the attention of medical men throughout the United States. It is very far from being confined to the self-styled botanical physicians, or empirics, as they are emphatically and most appropriately called, who rarely take the trouble to investigate the properties of any plant. They derive most, if not all their boasted information on this subject from the researches of regular physicians.

The resolution adopted by the American Association at Philadelphia, in May, 1847, turned the attention of American physicians to this subject. A committee was appointed, with N. S. Davis, M.D., as chairman, who made a short report upon it, which was followed by two long reports, the one by Francis P. Porcher, M.D., of Charleston, S. C., containing 174 pages royal octavo, and giving an account of more than five hundred medical plants growing in

the neighborhood of South Carolina; the other by myself, in a communication containing a list of about three hundred and twenty indigenous medicinal plants growing in Massachusetts, giving an account of their medical properties. Others have given lesser reports in the transactions of the Association, and the medical periodical publications of the day, showing that a growing interest is felt on the subject by our educated physicians.

The field for observation on this subject is vast, and as yet but little explored, particularly in the boundless West, which, comparatively speaking, is just beginning to be populated. The studies of physicians more naturally incline them to the cultivation of the science of natural history, than those of any other class of men; consequently they have done more towards enlarging its boundaries than any other. Their rides in thickets and forests, and in the open grounds, give them great opportunities for investigating this branch of knowledge.

Suffer me in this place to give an extract on this subject from the address of the father of American physicians, the immortal Rush, delivered before his class in the University of Pennsylvania in the year 1789, nearly sixty six years ago. It loses none of its value or significance by age. It also gives a spur and impetus to exertion in other branches of knowledge.

"Let me recommend to your particular attention the indigenous medicines of our country. Cultivate or prepare as many of them as possible, and endeavor to enlarge the *materia medica*, by exploring the untrodden fields and forests of the United States. The ipecacuanha, the Seneka and Virginia snakeroots, the Carolina pink-root, the spice-wood, the sassafras, the butternut, the thoroughwort, the poke, and the stramonium, are but a small part of the medicinal productions of America. I have no doubt but there are many hundred other plants which now exhale invaluable medicinal virtues in the air. Examine likewise the mineral waters, which are so various in their impregnation, and so common in all parts of our country. Let not the properties of the insects of America escape your investigation. We have already discovered among some of them, a fly equal in its blistering qualities to the famous fly of Spain. Who knows but it may be reserved for

America to furnish the world from her productions, cures for some diseases which now elude the power of medicine? Who knows but at the foot of the Alleghany mountains there blooms a flower that is an infallible cure for the epilepsy? Perhaps on the Monongahela, or the Potomac, there may grow a root that shall supply by its tonic powers the invigorating effects of the savage or military life, in the cure of consumption. Human misery of every kind is evidently on the decline. Happiness, like truth, is an unit. While the world, from the progress of intellectual, moral, and political truth, is framing a more safe and agreeable abode for man, the votaries of medicine should not be idle. All the doors and windows of the temple of nature have been thrown open by the convulsions of the late American revolution. This is the time, therefore, to press upon her altars. We have already drawn from them discourses on morals, philosophy, and government, all of which have human happiness for their object. Let us preserve the unity of truth and happiness, by drawing from the same source, in the present critical moment, a knowledge of antidotes to those diseases which are supposed to be incurable."

For my knowledge of the location of the principal part growing in this section of the country, I am more indebted to a manuscript containing a list of the plants of Wisconsin, by my friend Dr. S. Lathrop, recently Professor in the Beloit College, now a Professor in the Wisconsin University at Madison, than to any other source. I believe this catalogue has recently been published in some of our western periodical journals. I have also received valuable information from Lapham's Hist. of Wisconsin. I also avail myself of my own observations in a more limited sphere, during a short residence in this section of the country. The accounts of the medical properties of the plants enumerated, is from my own researches into the various authorities which have presented themselves to my notice, and this has been the principal labor of the undertaking. After all, but little new may have been elicited, but it will serve as a condensed reference to the medical plants of this section of the west. I have omitted the names of my authorities for the medical properties of the plants enumerated, as it would extend my communication to an indefinite length. I refer

the artificial classification of the plant of the Linnian arrangement thus, for the sake of abbreviation, Class 1. Order 13. I say, 1, 13. And for the natural order for Rubiaceæ, for instance, I say, N. O. Rubiaceæ, &c. I trust that most physicians have botanical works describing the plants in their particular locations, and it will be easy from this arrangement to refer to them. I have preferred the alphabetical arrangement to the natural or Linnian one, on account of the facility it gives in looking for the plant.

1. *Abies Balsamica*. Balsam of Fir. 20, 16. N. O. Conifiræ.

This beautiful tree, one of the most beautiful in the American forests, and one which should adorn our door yards more frequently than it does, yields a pellucid balsam, which is expectorant, vulnerary, and slightly stimulant. One part of this balsam, and two of spirits of turpentine forms an elegant transparent varnish for pictures, and paper.

2. *Abies Canadensis*, Hemlook tree. Class and order as above. Stimulant; branches used in fomentations—used in tanning.

3. *Abies nigra*. Black Pine, Spina, class and order as above, stimulant, diuretic. The oil of Spina is obtained from this.

4. *Abies* or *Pinus Strobus*. White Pine, class and order the same. Most valuable for timber, the bark used for poultices in the piles, stimulant.

The genus *Abies* taken from *Pinus*. Except in the pineries of Wisconsin, pines are scarce and timber high.

5. *Abutilon Avicennæ*. Indian Mallows, N. O. malvaccæ, emollient.

6. *Acer Saccharinum*. Sugar Maple, Mountain Maple, 8, 1. Its principal medical quality is the sugar which it yields.

7 *Acer Rubrum*. Red Maple, 8, 1. A good ink is made from it by boiling with sulphate of iron. Decoction useful in sore eyes.

8, 9. *Actaea Rubrum et Alba*, Cohosh, 13, 1, N. O. Ranunc., tonic, expectorant and nervine.

10. *Achillea Millefolium*. Yarrow, milfoil, N. O., Artracii. Anti-spasmodic and tonic.

11. *Acarus Calamus*. Sweet Flag, 6, 1, N. O. orontides. Aromatic, stimulant, used in dyspepsia and as bitter tonic.

12. *Adiantum Pedatum*. Maiden hair, rock fern, cryptogamia. Aromatic and slightly astringent. A soothing syrup for coughs is made from this plant somewhat similar to the syrup de capillaris.

18. *Anemone Nemerosa*. Wood, anemone.

19. *Anemone Virginica*. Wind Flower.

20. *A. Pennsylvanica*, *Anemone*. 13, 18, N. O. Ranunc. Properties alike, used in cutaneous affections. It is acrid and irritating, and sometimes used as a substitute for Spanish flies.

21. *Amphiocarpaea Monarca*. N. O. Liguminous, esculent.

22. *Agrimonia Eupatoria*. Common Agrimony, 12, 2, tonic, laxative and febrifuge.

23. *Alnus Serrulata*. Common Alder, 20, 4, N.O. Amentiaciæ. Leaves bitter and astringent. I have found a decoction of the bark of this shrub a most valuable remedy in Haematuria. It is also good in other hemorrhages.

24. *Alnus Incarnata*. Same class and order. Astringent.

25. *Allium Canadense*. Wild Onion. 6, 1, stimulant diuretic, and laxative. Similar in its properties to the common onion.

26. *Amaranthus Altissimus*. Prince's Feather, { 20, 5, Both

27. *Amaranthus Hybrides*. Lovely bleeding, } these plants are considered to be useful in the hemorrhages, particularly in the uterine hemorrhage.

28. *Alisma Plantago*. Great Water Plantain, 8, 13, irritant; stimulant. It was formerly considered in Russia to be almost a specific in hydrophobia, but it is not now much used for this purpose.

29. *Ambrosia Trifida*. Rich weed. This weed was used by the Indians to make ropes. Employed in after-pains in labor, nervine.

30. *Arctium Lappa*. Burdock, 6, 1. Diaphoretic, diuretic, sudorific.

31. *Andromeda Polifolia*. Andromeda. Irritant, errhine.

32. *Aquilegia Canadensis*. Columbine, 13, 5, N. O. Ranunc. Laxative, diuretic.

33. *Apio Tuberosa*. Ground Nut, 17, 10, N.O. Leguminosa. Esculent, somewhat similar to the potato.

34. *Aralia Nudicaulis*. Spikenard, 5, 5, true spikenard.
35. *Aralia Racemosa*. False Sarsaparilla, 5, 5.
Both these species are mild stimulants, aromatic, etc., expectorant. A syrup of these plants is much used in coughs. The bruised root in wounds and old ulcers.
36. *Aralia Spinosa*. Prickly Ash. Class and order the same. Highly stimulant, irritant, diuretic. Used much in rheumatism, toothache, etc.
37. *Arabis Canadensis*. Cress. Stimulant, edible.
38. *Archangelicæ atropurpurea*. Archangel, 5, 2, N.O. Umbellif. Sometimes mistaken for Cicuta or poison hemlock, as it is somewhat similar in appearance. Carminative, stimulant, stomachic.
39. *Artemesia canadensis*. Wormwood, 18, 2, n. o. corymbifera. The powder of the root has been much used in epilepsy, a most valuable discutient, and much used in fomentations, in wounds and bruises.
40. *Arbutus uva ursi*. Bear berry. Uva ursi. 1, 10, n, o, Ericæ. Diuretic, tonic, astringent.
41. *Apocynum androsæmifolium*. Ipecac. Dog's bane. 5, 2, n, o, Apocynæ, emetic, cathartic, &c.
- Apocynæ cannabinum. Indian hemp, 5, 2. n, o, Apocynæ, Emetic, cathartic, and diuretic.
42. *Asclepias cornuti*. Milk weed, Silk weed, 5, 2, } Emetic.
43. *Asclepias incarnati*. Silk weed, 5, 2. } Cathartic.
44. *Asclepias tuberosa*. Pleurisy root, butterfly weed, 5, 2, Pectoral, carminative.
45. *Asarum Canadense*. Canada snake root, wild ginger, 12, 1. Aromatic stimulant, and diuretic.
46. *Arum tryphyllum*. Wild turnip, Dragon root, 20, 13. n, o, Aroideæ, expectorant, carminative, diuretic. The root loses much of its causticity in drying.
47. *Asplenium thalictroides*. Spleen root. cryptogamia. astringent, pectoral, and diuretic.
48. *Aster macrophyllus*.
49. *Aster macrophyllus*, } Aster, star flower, 8, 2, n, o, Asteracæ
50. *Astor Nor-Angleæ*, } Used in cutaneous eruptions, and as an ecbolic.

51. *Avena Strictus*. Wild oats, 3. 2, n, o, graminacæ, dietetic, expectorant.
52. *Asparagus officinalis*. Asparagus, 6, 1, n, o, asparagi, dietetic, and diuretic.
53. *Betula papyraceæ*. White birch, 20, 13, n, o, amentacæ, astringent, diuretic.
54. *Baptisia tinctoria*. Indigo plant, n, o, Leguminosæ, emetic, cathartic.
55. *Brassima peltata*. Water shield, 2, 1, mucilaginous, like the lichens.
56. *Bidens fondosa*, } 18, 2, n, o, corymbiferæ. An infusion of
57. *Bidens cernua*, } seeds formed into a syrup with honey, good
 } in hooping cough.
58. *Bronun ciliatus*. Chess, 2, 2. A noxious plant among wheat. Purgative, sudorific, and diuretic.
59. *Botrychium fumariordes*. Rattlesnake fern, cryptogamia. Mild astringent,
60. *Calla Palustris*. Water arum, 20, 13. Acrid, stimulant like the wild turnip. It loses its causticity by drying, and is then eaten in Sweden for bread.
61. *Caltha palustris*. Cowslip, 13, 18, n, o, Ranunculaceæ. Esculent when boiled young in the spring; later acrid. It sometimes kills cattle.
62. *Cardamine rhomboidum*. L. Ladies smock. Roots, purgative, diuretic, and nervous, cardamine pratensis.
63. *Callytriche verna*. Water chickweed, n, o, callitrichiana. Highly diuretic, and useful in dropsy.
64. *Canna alba*. Perhaps the *Juglans*, butternut, n, o, Juglandicæ. From the butternut a most valuable cathartic is extracted, which is much in use in domestic practice.
65. *Carex arva*. Sedge. L. This genus is very extensive. Edible, stomachic, diuretic, especially those with odorous roots.
66. *Carpinus virginica*, *Vel ostrya*, n, o, carylaceæ. It affords a grateful food for cattle. The wood is very hard and white, and burns like a candle. It dies yellow.
68. *Cassia chamachristus*. A species of senna, 10, 1, n, o, Leguminosæ, cathartic, laxative.

68. *Caphalanthus occidentalis*. Button wood. L. Tonic febrifuge, cathartic.
69. *Ceanothus Americanus*. New Jersey tea root, 5, 1, n, o, Rhanaceæ. Astringent, used for aphous sore mouth; used as a substitute for tea during the revolutionary war.
70. *Celastrus scandens*. False. bitter sweet, 5, 1, n, o, celastracean. The bark is emetic and dysentient. Useful in discussing tumors and swellings in the bags of cows.
71. *Celtis occidentalis*. Hackberry, 5, 1. N. O. Amentacæ. Anodyne, refrigerant. The berries eaten in dysentery.
72. *Cicuta Maculata*. Wild poison Hemlock, 5, 2. N. O. Umbilliferæ. A narcotic irritant poison like the conium.
73. *Cicuta bulbosa*. Same class and order. Properties the same.
74. *Circaea lutitiana*, Enchanted night shade, 1, 2. n. o. Labiatæ, used in enchantments in druidical ages, like the mummery of animal magnetism.
75. *Claytonia Virginica*. Pigroot. L. Antiscorfulous in cataplasms.
76. *Clematis Virginiana*. Clematis, 3, 13, n. o. Ranunculacæ. Very acrid, and employed as a caustic. Its fibres make paper.
77. *Cimicifuga Racemosa*. Cohosh. Black snakeroot, n. o. Ranunc. Tonic, and expectorant. Much used in consumptive complaints.
78. *Chimaphyla umbellata*. Altered from Pyrola. Spotted winter green. Diuretic and tonic, much used in dropsy.
79. *Chilone glabra*. Snake head, 14, 2, n. o. Peronata. Bitter, tonic.
80. *Chenopodium album*. Worm seed. Jerusalem oak, 5, 2, n, o, Chenopodiacæ. Anthelmintic, expectorant, and emmenagogue.
81. *Chenopodium hybridum*. Class, order, and properties the same.
82. *Crataegus coccinea*. Thorn bush, 12, 2. Astringent, anti-emetic, stomachic.
83. *Conium maculata*. Poison hemlock, 5, 2, n, o, Unbelliferæ. Anodyne, acrid, and extremely poisonous. I have seen the best effects from this in cancerous ulcerations, from using the bruised leaves in poultices.

84. *Cornus alternifolia*, } 4, 1, n, o, *Hedera*.
 85. *Cornus cincinata*, } Different species of Dogweed.
 86. *Cornus sericea*, } All tonics, and pretty good substi-
 88. *Cornus paucifolia*, } tutes for Peruvian bark. Cornein
 89. *Cornus Canadensis*, } has been made from *Cornus Cana-
 } densis*, little inferior to Quinine.
90. *Coptis trifoliata*. Gold thread, Mouth root, 13, 13, n, o, Ranunc. Tonic, stomachic, and detergent. Much used in the aphous sore mouths of children.
91. *Coreopsis*. Tickseed. L. Used as a red dye by the Indians.
92. *Corylus Americana*. Hazel-nut, 20, 13, n, o, Amentacæ. The fruit is said to be good in inflammation of the kidneys. The oil is used in toothache.
93. *Clintonia borealis*. L. Vulnerary in a decoction of the leaves.
94. *Chara vulgaris*. Water feathers. L. Anti-spasmodic and vermifuge.
95. *Convallaria multiflora*. Great Solomon's Seal, 6, 2, n, o, Asparagin. I have seen the best effect in hemorrhoids or piles from a syrup made of four ounces of the dried root of this plant, one quart of water, simmered to a pint, add a pint of molasses and simmer. Dose a wine glass full three times a day.
96. *Chrysosplenium*. Water carpet. L. Aperient, corroborant.
97. *Cuscuta gronovir*. Dodder, 5, 2, Bitter, and astringent.
98. *Cipressus thyoides*. White cedar. L. Infusion of the wood stomachic. The oil used in rheumatism.
99. *Cynoglossum officinale*. Hounds tongue, 5, 1. Demulcent and sedative. Used in Nœmaphysis.
- 100, *Cypripedium pubescens*. } Ladies slippers, 19, 2, n, o.
 101, *Cypripedium parviflorum*, } Orchidæ. All most used as
 102, *Cypripedium spectabile*, } a nervine by the botanic
 } physicians and quacks as an
 } anti-spasmodic and nervine.
 } They call it Nervine, Amer-
 } ica Valerian. I can see but
 } little efficacy in it.
- 103, *Cyprus oleandrus*. Bull rush; cryptogamia, diuretic.
- 104, *Datura stramonium*. Common Thorn apple, apple penn,
- 5, 1, n, o. Solanæ. This is one of the most powerful of our narcotics, and an acrid poison.
- 105, *Diervilla trefida*. L. Yellow dierville; antisyphilitic, diuretic.

106. *Delphinium consolida*. Larkspur, 13, 3, n. o. Ramunc.
Vulnerary, anti-spasmodic, diuretic.
- 107, *Dentaria laciniata*. Tooth root. L; aromatic and stimulant.
- 108, *Dirca palustris*. Leather wood, Moose wood, 8, 1, n. o. T. Thymelæ. It is emetic, cathartic, rubifacient, and epispastic.
109. *Drosera rotundifolia*. Linden, L. Pectoral, and used in asthma.
- 110, *Elymus Virginicus*. The seeds eaten like bread.
- 111, *Equisitem arvense*. Horse tail, } Cryptogamia ; both of
112, *Equis. hyemale*. Scouring rush. } them excellent diuretics
- 113, *Erythronium dens canis*. Adder's tongue, 6, 1, n. o. Libiar. The root when dry is farinaceous ; when green, emetic, acrid and stimulant.
- 114, *Euonymus atropurpurea*. Spindle tree, L. Fruit emetic, diuretic, in powder good for the itch.
- 115, *Eupatorium perfoliatum*. Thoroughwort, boneset, 8, 1, n. o. Compositæ. This is undoubtedly one of our best indigenous cathartics ; the flowers are also tonic and emetic.
- 116, *Eupatorium purpureum* Joepye root, class and order the same, highly diuretic.
- 117, *Euphorbia maculata*. Blooming spurge, 11, 3 ; cathartic, emetic, and stimulant.
- 118, *Fagus ferruginea*. Beech, 20, 13. It yields a pleasant edible nut. The decoction of the leaves, and in ointments, good for burns and scalds.
- 119, *Florckia proserpin cardis*. Sweet salad ; edible, good and sweet.
- 120, *Fragaria virginiana*. Strawberry, } Pleasant fruit a de-
121, *Fragaria vesca*, common ditto, } coction of the leaves
useful in dysentery.
- 122, *Fedia fago pynum*. Lamb lettuce. Mx. A good salad, diuretic.
- 123, *Fraxinus Americana*. Ash tree, 21, 2, n. o. Jasmineæ. The bark is bitter and astringent, and used for hemorrhages, and the bites of snakes.
- 124, *Galium aperine*. } Goose Grass, 4, 1, n. o. Rubiceæ,
125, *Galium asprellum*, } diuretic, and astringent.

126, *Gaultherius procumbens*. Winter green, chequer berry, 10, 1. A very pleasant aromatic stimulant. The oil and essence very much used in this country, diuretic.

127, *Geranium maculatum*. Crane's bill, 16, 10, n. o. Geranaceæ. This is one of our best and purest astringents.

128, *Geranium robertianum*. Same class and order. Used in the bloody water and bloody flux of animals, astringent and diuretic.

129, *Gerandia quircifolia*. Golden oak. Mx. Used by the Sioux Indians for the bite of the rattlesnake. It is also used for the toothache.

130, *Gentiana quinqueflora*. } Blue and fringed gentians, 16,
131, *Gentiana erinata*, } 10, n. o. Gentiana, tonic, bitter,
132, *Gentiana Saponaria*. } corroborant, cathartic, good substitutes for foreign gentians.

133, *Geum robertianum*. Avens. Throat root, 12, 3, n. o. Rosaceæ; astringent and a pure tonic; used with gold thread for aphous ulcerations, in chronic diseases, diarrhoea, leucorrhœa, &c.

134, *Gnaphalium polyaphelata*, Life everlasting, 18, 2, n. o. Corimbiferæ; astringent, vermifuge, and vulnerary.

135, *Goodyera pubescens*, Scrofula weed. Used much in scrofulous affections.

136, *Hydrastis canadenses*. Scrofula weed. Much used by the botanists and other empirics. Bitter, pungent, nauseous and disagreeable.

137, *Hepatica triloba*. Liver root, 13, 13, Ramunc. Expectorant. It has been very extensively used in syrup in consumptive complaints.

138, *Helonias deplexa*. Helonias. The decoction of the bark of the root useful in colic.

139, *Helianthus rigidus*. Sunflower, 18, 3, n. o. Corymbiferæ.

140, *Helianthus annuus*. Large sunflower, class and order the same. The seeds of this plant yield an oil equal to olive oil; astringent.

141, *Helianthus tuberosus*. Artichoke, class and order the same. Culinary roots, which contains sugar, diuretic.

142, *Helianthus canadenses*, properties somewhat similar.

143, *Helenium autumnale*. False Sunflower, yellow star. R. Tonic, febrifuge, errhine. It has been used in intermittents.

145. *Heracleum lanatum*. Martin root, 5, 2, n. o. *apiaceæ*; a warm stimulating carminative, like the anise and caraway.
- 145, *Hieracium canadenses*. Vining hawkweed, 18, 1, n. o. *cichor. vulnerary, astringent, sudorific, and pectoral.*
- 145, *Hieracium gronovir*, class and order the same; useful for tooth ache, and to cure warts.
- 147, *Hordeum jubatum*. A species of barley; used like the genuine.
- 148, *Humulus lupulus*. Common hop, 21, 5. Bitter, tonic, narcotic, lupulin, or the powder of the hop easily separated from it. They are the principal ingredients in beer and porter.
- 149, *Hydrophyllum virginicum*. Burn flower, 5, 2. This has been used against the bites of snakes, and that erysipelatous inflammation of the skin produced by the *Rhus* or poison sumach.
- 150, *Hypericum pyramidatum*, } St. John's wort.
- 151, *Hypericum canadense*, } St. John's wort, 5, 1; Balsamic, pectoral, somewhat styptic and vulnerary. Used in diarrhoea, dysentery, mania, and low spirits; a syrup of it useful in croup.
- 152, *Impatiens pallida*. Jewel weed, 5, 1. The whole plant is acrid, and when taken internally it operates as an emetic, cathartic and diuretic.
- 153, *Iris versicolor*. Flower de luce, } 3, 1, cathartic, acrid,
- 154, *Iris virginianum*. Blue flag lily. } stimulant and emetic.
- 155, *Juglans cinerea*, Butter nut, } class 20, order
- 156, *Juglans cinerea*, Black walnut, } 13. The butter-
- 157, *Juglans squarrosa* shag bark hickory nut } nut is a most valuable cathartic. The bark of the others is rubifacient.
- 158, *Juncus valticus*. Rushes, L. diuretic, cathartic
- 159, *Juniperus communis*. Common Juniper, } 21, 16, stimu-
- 160, *Juniperus virginianum*. Red cedar, } lant, emenagogue, diuretic, and diaphoretic.
- 161, *Kalmia glauca*. Laurel, 10, 1, leaves poisonous and narcotic.
- 152, *Larix Americana*. Larix. Hackmetac, 20, 16. It produces a fine balsam similar to turpentine, useful in wounds, bruises, &c. This tree resembles the *pinus*, but the leaves are deciduous in the fall.

- 163, *Ledum latifolium*. Labrador tea, Marsh tea. Leaves bitter, astringent, and pectoral; used in cutaneous eruptions.
- 164, *Lemna minor*. Duck meat. 20, 2. A cataplasm of it has been used in gout, and in the piles. A decoction useful in Jaundice.
- 165, *Leonorus cardiaca*. Motherwort, 14, 1. Similar in its properties to valerian; used in hysterical and nervous effections.
- 166, *Leontodon taraxacum*. Dandelion, 18, 1. This plant has come into vogue greatly for jaundice, dyspepsia, &c. It is diuretic, slightly tonic, and aperient.
- 167, *Lepidium virginianum*. Pepper grass, 15, 2. Eaten as a salad; acrid, diuretic, anti-scorbutic.
- 168, *Lilium canadenses*. { Canada and Philadelphia lily, L.
169, *Lilium philadelphicum*, } Roots useful in suppuration for poultices. Edible.
- 170, *Liatris cylindrica*. Gay feather, 1, 1. Diuretic; good in gravel.
- 171, *Liatris scariosa*. Button snake root, class, order and properties the same.
- 172, *Linum rigidum*. Wild flax.
- 173, *Linum usitatissimum*, common flax naturalized, 5, 5, laxative pectoral, sudorific, flax seed, one of our purest demulcents.
- 174, *Lobelia cardinalis*, Cardinal lobelia, 5, 1.
- 175, *Lobelia syphilitica*. Syphilitic lobelia, 5, 1.
- 176, *Lobelia inflata*. Devil's pepper, 5, 1. The last article is the divine remedy of the Thomsonian, Botanics, Steamers, and Eclectics, which may all be ranked under the same class, and the one on which they raised themselves to their little ephemeral popularity, and one which with their short lived popularity descended almost to the shades of oblivion. It is a violent narcotic, acrid poison, and highly irritant. I have given a full account of it in the New York Journal of Medicine and Surgery, for the year 1846.
- 177, *Lonicera sempervirens*. Honeysuckle, 5, 1. The ripe berries of this beautiful plant are strongly purgative. The leaves and flowers are bitterish, mucilaginous and detergative. A syrup is prepared from them for sore throat and irritability of the lungs.
- 178, *Lupinus perennis*. Lupini, Finger leaf, L. Seeds bitter and flatulent.

179, *Lycopodium lucidulum*. Ground pine, L. *Cryptogamia*; used in dropsy, emenagogue, drastic, gout, diarrhoea, &c.

180, *Lycopus virginicus* Water agrimony. Bugle 2, 1. This is one of our most valuable astringents; very valuable in uterine and all other hemorrhages. I have published a long account of it in the New York Journal of Medicine. I hope it will continue to engage the observation and attention of physicians.

181, *Lycopus minatus*. Water horehound, class and order the same. Used in intermittent fevers.

182, *Lythrum alatum*. Willow herb. L. Mucilaginous in diarrhoea and dysentery.

183, *Lysimachia quadrifolia*. Loose strife. L. Slightly astringent, stomachic, expectorant; good for coughs and cold, and to improve the appetite.

184, *Lythospernum officinale*. L. Similar in properties to cynoglossum.

185, *Malva rotundifolia*. Mallows, class 17; all the mallows are mucilaginous, and equivalent in properties to the slippery elm, gum arabic, &c.

186, *Marula cotula*. May weed. L. Bitter, tonic, stomachic, nervine.

187, *Marubium vulgarie*. Hore hound, 14, 1; emenagogue, deobstruent, diuretic, used in dysmenorrhœa, and in affections of the kidneys. It is the basis of the negro remedy for the bite of snakes.

188, *Medeola virginica*. Indian cucumber, 6, 3. It is highly diuretic, and has been successfully used in dropsies.

189, *Menispermum canadense*. Moonseed, L. Bitter, tonic, mucilaginous; used in the strangury of horses.

190, *Mentha canadenses*. Common mint, 13, 1, n. o. *Labiatæ*; all the mints are warm aromatic stimulants. The wild leaves applied warm on the breast will prevent the formation of abscesses, and promote the flow of milk.

191, *Meriganthus trifoliata*. Buck bean, 5, 1, n. o. *Gentianæ*, Bitter, tonic, and cathartic. More intensely bitter than gentian; used in intermittent and other fevers, where tonics are required; in rheumatism, dropsy, and cutaneous eruptions.

192, *Mitella dyphylla*. Currant leaf; Refrigerant, used in fevers as a drink.

193, *Mitchella repens*. Creeping chequer berry. This is a most valuable diuretic, much used in dropsy. For an extended account of it see my *Medical Botany*.

194, *Monarda fistulosa*. Balm, 2, 1, n. o. *Labiatae*.

195, *Monarda punctata*. Mountain Balm, 2, 1, n. o. the same ; altered to *Milissa*. Aromatic, fragrant, and anti-emetic, similar to the mints.

196, *Monotropa Uniflora*. Beech drop, pipe plant, 10, 1, N. *Monotropae*. Anodyne. Dr. Steward's substitute for opium ; cures ophthalmies.

197, *Milium effusum*. Wild Millet. L. Esculent.

198, *Myrica gala*. Bay berry. n. o. *Myricae*; astringent, anti-spasmodic used in dysentery. From the berries bay-berry tallow is made.

199, *Nasturtium palustre*, *Nasturtion*, L; aromatic, diuretic.

200, *Negundo acerandis*. Equivalent with all the maples.

201, *Nymphaea odorata*. White pond lily, sweet pond lily, 13, 1. The roots are the parts employed in medicine. They are demulcent, anodyne and emollient. They form the best poultices which can be used in suppurating abscesses.

202, *Nuphar advena*. Yellow water lily, 13, 1. This plant possesses the properties of the above, but in a less degree.

203, *Nepeta cataria*. Catmint or catnep, 5, 1, n. o. *Labiatae*. carminative, stimulant, and much used in the affections of infants.

204, *Oxalis violacea*. Clover leafed sorrel, L. 1, 5. This plant yields oxalic acid.

205, *Oenothera biennis*. Seabish Tree primrose, 8, 1, n. o. *Malastron*; esculent. mucilaginous.

206, *Orchis spectabilis*, *Salep*, L. From this Ocher's Salip is made, vermicfuge.

207, *Ostrya virginica*. Similar to carpinus.

208, *Oryzopsis asperifolia*. American rice ; eaten by the American Indians like common rice.

209, *Panax quinquefolia*. Ginseng, 5, 2. The divine remedy of the Chinese. Very abundant here, sufficient for commercial pur-

poses. Stimulant cordial tonic, expectorant, &c. An excellent ingredient with mallows in cough mixtures.

210. *Parnassia*. Similar in its properties to hepatica.

211. *Pastinacæ Saliva*. Parsnip, 5, 2. Esculent. Seeds aromatic and stimulant.

212. *Pedicularis canadenses*. House wort, 14, 2. Sometimes called heal-all. The Indians use it in the bite of snakes.

213. *Pinus banksiana*. See *Abies*, 29, 16.

214. *Pinus resinosa*. Pitch pine, 29, 16. From this the turpentine and resin of commerce is made.

215. *Pinus mitis*. Pine 29, 16. All the kinds of pines are valuable, from which the pitch, resin, and turpentine are made. Diuretic and stimulant.

216. *Plantago major*. Common plantain, etc. Leaves cooling and vulnerary. Root astringent. When young, leaves a good salad.

217. *Phytolacca decandra*. Poke root, 11, 10. Emetic, cathartic, narcotic. Used much in the cure of rheumatism; also in the swelled udder of cows.

218. *Physalis viscosa*. Ground cherry, 5, 1. Berries diuretic and sedative.

219. *Podophyllum peltatum*. May apple. Mandrake, n. o. *Actiana*. This is one of our very best native cathartics at the west, and it grows in great abundance there. On account of its superior efficacy as a cathartic, it is sometimes called mercury root. An account of it may be found in all our best medical dispensations. Leaves narcotic. Fruit relished by most people.

220. *Partulucca olevacea*. Purslain 11, 12. Diuretic and vermifuge. Esculent. A good salve made with it for the lips and nipples.

221. *Polygala paucifolia*. Dwarf milk-root, 17, 3, n. o. *Polygonaceæ*. Properties somewhat similar to *Polygala senega*, stimulant, sudorific. Smells somewhat like the *Gaultheria procumbens*. A tea of the plant useful in erysipelas. Used for rattlesnake bites.

222. *P. Sanguinia*. } Snakeroots. Class and order as above.

223. *P. Polygamia*. } Properties somewhat similar.

214, *Polygonum persicaria*. Water pepper, Smart weed, 9, 3, n. o. *Polygoniacæ*. A pungent, biting, aromatic plant, diuretic and stimulating vesicant, and blistering the skin if applied long to it. Used a good deal in fomentation when an irritant effect is desirable.

216, *Polygonum hydropiper*, Similar in properties to the above.

216, *Polygonum fagopyrum*. Buck wheat. Esculent, flour in pancakes equal to wheat. A tea of the plant useful in erysipelas, both as a beverage and wash.

217, *Polygonatum pubescens*.

218, *Populus tremuloides* Common poplar. Class 21. This is the celebrated tonic bitter of the Thompsonian or steamers. The buds are balsamic and stimulant.

219, *Populus balsamifera*. Balsam poplar. The balsam from the buds of this tree is considered to be equal to copaiva.

120, *Polygonus grandidenta*.

121, *Potentilla norwegica*. Cinquefoil, fine finger, 12, 13. This is a mild astringent, and was formerly used in diarrhoea. Properties somewhat similar to tormentilla.

122, *Prunella vulgaris*. Self heal. 14, 1. Bitter astringent. Bruised and applied to wounds supposed to be very effectual in healing them.

123, *Prinos verticillatus*. Red berry alder. Bark astringent, emetic, and tonic. Berries purgative and vermisuge. A very ornamental shrub, which would add much to the beauty of our door yards.

124, *Prunus Americana*. Wild cherry, black cherry, 12, 1. n. o. *Rosaceæ*. This is a bitter astringent, and contains Prussic acid. Tonic, antibilious, and pectoral. It is the basis of Ayer's celebrated cherry pectoral.

125, *Pyrus coronaria*. Wild crab, 12, 1. Blossoms and fruit acrid, bitter and austere, still the fruit is much used in preserves.

126, *Pyrola rotundifolia*. Round leafed winter green, 10, 1. Diuretic, leaves vulnerary.

127, *Pycnanthemum lanceolatum*. Wild basil, 14, 1. This plant is similar in its properties to the mints and pennyroyal.

128, *Ptelea trifoliata*. Wing seed, vermisuge in tea, vulnerary in poultices.

129, *Quercus alba*. White oak, } 20, 13. All the oaks are valuable astringents.
130, *Quercus rubra*. Red oak, } From
131, *Quercus pinus*, } them tanin is prepared, the most valuable astringent in use.

132, *Ranunculus repens*. Crowfoot, butter cup, 14, 1. Acid and narcotic. The leaves applied to the skin will blister it.

133, *Ribes cynosbati*. Gooseberry, 5. 1. Fruit edible, laxative, refrigerant. Their properties are universally known.

134, *Rhamnus alnifolius*. A species of buckthorn. Properties somewhat similar to *Rhamnus catharticus*, class 5, 1.

135, *Rhus typhina*. Sumach, } 5, 3. Harmless astringent.
136, *Rhus glabra*. Smooth sumach } Berries used in dysentery.

137, *Rhus vernata*. Poison sumach. } Poisonous, class

138, *Rhus toxicodendron*, Poison sumach } and order the same. Produces an effect like erysipelas.

139, *Rubus occidentalis*. Bramble raspberry. } 13, 13. Properties of the

140, *Rubus villosus*. Blackberry. } above berries

141, *Rubus nathamis*. Perhaps dewberry. } and shrubs are too well known for description here.

142, *Rumex brittanica*, 6, 3, Acid and refrigerant.

143, *Rumex acetosella*. Sorrel dock.

134, *Rumex Crispus*. dock, class and order the same. Astringent, anti-scorbutic, and tonic. Much was formerly thought of its efficacy in cancer.

145, *Rosa lucinda*. Rose 13, 13, of the more than 300 species of roses, 30 at least are wild in America. Their properties are similar and well known to educated American physicians.

146, *Sanguinaria canadensis*. Blood root, 13, 1. A volume might be written in praise of this valuable plant. An account of its virtues may be found in all the writers upon *Materia Medica* and *Medical Botany* extant. That of Tully, in the *Philadelphia Medical Recorder*, is the most elaborate, to which I refer the reader.

147, *Sambucus canadensis*, Common elder, 3, 3. Flowers laxative, and somewhat sedative. The syrup also possesses much the same properties. Much used in the diseases of infants. Good in cutaneous eruptions. The berries make good wine.

148, *Sanicula marylandica*. Sanicle, 5, 2. sub-astringent,

tonic, antisyphilitic. It has been used as a diuretic in cases of dropsy, also in gonorrhœa, syphilis. In decoction it is good in wounds and bruises.

149, *Sarracenia purpurea*. Side saddle flower, 18, 1, n. o. *Sarracenaceæ*. The roots of this singular plant are bitter, tonic, and stomachic, and are useful in dyspepsia, and where tonics are required. Useful in diarrhoea and chronic dysentery.

150, *Saponaria vaccinia*. Soapwort, 10, 2. Tonic, diaphoretic, and hepatic. It has been used in rheumatism, gout and jaundice. They are diuretic and emmenagogue.

151, *Saxifraga aiton*, *Saxifraga*,

152, *Saxifraga Pennsylvanica*. Rock saxifrage, 10, 1. They are bitter and astringent. Root useful in gravel.

153, *Scipus pungens*. Bull rush. *Cryptogamia*. Diuretic.

154, *Scutellara lateriflora*. Scull cap, mad dog weed, 14, 2, n. o. *Labiataeæ*. Volumes have been written and more angry passion has been excited upon the anti-hydrophobic virtues of this plant, and much ridicule has been cast upon the believers in it. Still the facts and arguments which have been adduced in its favor have not been overthrown. Some of the most respectable physicians in England, and in the United States have been believers in it, such as Dr. Mussey, of Cincinnati, Dr. Spalding, Drs. Wells, Stone, Williams, Rafanisquie, and many others in America, besides Youatt and Watson, in Europe. I am no believer in any specific, yet I think the subject should be treated with candor, rather than ridicule. Surely a substance containing the following ingredients cannot be considered inert. The substances found in it by Cadet were, 1st. Yellow green oil, fixed, and soluble in ether. 2nd. A bitter principle. 3rd. Chlorophylle. 4th. A peculiar volatile matter, tasting and smelling like the principle of anti-scorbutic plants 5th. An essential oil. 6th. Albumen. 7th. A sweet mucous substance. 8th. A peculiar astringent principle. 9th, Lignin. When burnt the ashes afford chloride of soda and seven other salts. It is, says he, tonic, astringent, anti-spasmodic, anti hydrophobic at least. The steamers and botanics consider it their grand anti-spasmodic. (See my communication in the transactions of the American Medical Association, vol, 2, 1849.)

155, *Santillaria galimculata*. Hooded willow herb, class and order the same. Anti spasmodic.

156, *Silphum lanchium*. Turpentine gum flower, L. Yields a fine fragrant gum like Frankinsence, and chewed by the Indians to sweeten the breath.

157, *Silene stellata*. Wild pink, L. vermifuge.

158, *Sinapis alba*. White mustard, 15, 2. Antiscorbutic and diuretic; leaves used as a salad.

159, *Sinapis nigra*, Black mustard, 15, 2; heating and stimulant. Used as a condiment. Seeds in large quantities unbroken emetic; bruised most excellent for an external irritant.

160, *Sisymbrium canescens*. Hedge mustard, n. o. cruciferæ, diuretic, and expectorant.

161, *Smilax rotundifolia*. Green briar, 21, 6. An infusion is said to be of service in mercurial salivation, in chronic rheumatism, and in diseases of the skin.

162. *Spergula arvensis*. Spurge, 10, 5. The inhabitants of Norway and Finland use the seeds for bread, when the corn fails; poultry are fond of them.

163, *Solidago laterifolia*. Golden rod, 18, 2.

164, *Solidago odora*. Sweet scented golden rod, 18, 2. Carminative. Its properties are very similar to aniseed, caraway, &c., aromatic and stimulant.

165, *Sorghum natans*, L. Esculent.

166, *Spiraea opulifolia*. A species of hard hack, 12, 5, slightly astringent and tonic.

167. *Symphonia carpus occidentalis*. Snow berry; root used for ague, tonic, and astringent; fibrifuge in small doses.

168, *Symplocarpus foetidus*. Skunk cabbage, n. o. Iridian Root acrid and stimulant; when green applied to the tongue it will instantly blister it; very extensively used in medicine, an account of which may be found in all our dispensaries.

169, *Thalictrum anemanoides*. Meadow rue, 13, 13; a poultice made of the leaves of this plant has been known to alleviate the pain of sciatica.

170, *Thalictrum diocum*. Same class and order; sometimes used for snake bites.

171, *Tiphrosia virginica*. Turkey pea, L. Vermifuge.

172, *Teucrium canadense*. Wood sage, germander, 14, 1. Tonic, aromatic, bitter.

172, *Tilia americana*, Bass or Linn, 13, 1. This is a most valuable wood. The bark formed into poultices is superior to slippery elm, and used for the same purposes. Most extensively used in burns, bruises and ulcers.

173, *Trillium cernuum*. Nodding trillium, 6, 3. The roots of all the trilliums are most valuable astringents. I have published a long article upon them in the New England Journal of Medicine and Surgery, and in the New York Journal of Medicine, and in the Transactions of the American Medical Association.

174, *Triosteum perfoliatum*. Fever root, 5, 1. Cathartic, and in large doses emetic, diuretic, useful in fever, agues, and pleurisies.

175, *Ulmus Americana*. Common elm, 5, 2. A splendid ornamental tree. Diuretic and demulcent.

176, *Ulmus fulva*. Slippery elm, 5, 2. The bark is one of the purest demulcents known for drinks and poultices.

177, *Urtica pumila*. Common nettle, 20, 4, stimulant, diuretic.

178, *Valeriana ciliata*. American valerian, L. Used in nervous diseases.

179, *Vaccinium macrocarpus*. The whortleberry species, L, 10, 1, diuretic.

180, *Verbascum thapsus*. Mullein, L. Much used as an external mild irritant, by binding the leaves on the part effected, demulcent, and pectoral.

181, *Verbena hastata*. Purple vervain, 14, 1, bitter, emetic, expectorant. A syrup prepared from it very useful in coughs.

182, *Viburnum opulus*. Snow ball. } 5, 3, diuretic, berries

183, *Viburnum lentago*. Haw berry, } eaten by partridges and other birds.

184, *Viola blanda*. Smooth violet, } All the violets are highly

185, *Viola cucullata*. Hat violet, } mucilaginous and diuretic

186, *Viola pedata*. Bird foot violet. } I have published a full account of them in the New York Journal of Medicine and Sur-

gery, which has been republished in the American Journal of Pharmacy, Philadelphia.

- 187, *Viola pubescens*. Yellow wood's violet.
188, *Vitis æstivalis*. Summer grape. } 5, L. For an account of
189, *Vitis riparia*. Frost grape. } the forty-nine species of
American grape see Ra-

finisques Medical Botany, vol. 2, p. 121.

190, *Xanthium strumarium*. Clott burr, 20, 5. Leaves bitter and astringent, useful in scrofula and erysipelas.

191, *Zanthoxylon Americana*. Prickly ash, 20, 5. An acrid stimulant similar in its properties to the stratias which see. Used in chronic rheumatism, tooth ache, &c.

192, *Zizania aquatica*. Wild rice, water oats, L. Esculent. Much relished by cattle and horses.

ART. II.—*Case of Strangulated Hernia. Operation and Recovery.* By SAMUEL THOMPSON, M.D., of Albion, Ill., delivered before the Aesculapian Society at their last meeting in Marshall, Ill.

Cases of Strangulated Hernia requiring the use of the knife are rather rare in country practice, and as the urgency of the symptoms often requires such prompt action, while the difficulty of procuring professional help or necessary conveniences at the time are so great, the rarity of such cases are very fortunate.

The subject of the following case, residing 10 miles from me, was a poor weakly emaciated woman of about 50 years of age, the mother of several children, she suffered for some years, part from a prolapsus of the uterus which protruded, even in the recumbent position, from the Vulva as a smooth round tumor, about as big as the end of a large egg. She stated she had been out of health for some time with chills and fever, and had been under the treatment of a quack Doctor, but had not had many chills since 1st Oct., 1853. I first saw her on 9th Oct. That after the chills left her she had some fever and colicky pains in her bowels, became costive, and discovered she had this tumor in the groin, (she had been washing and lifting an iron kettle) for this again she applied to her quack doctor, who told her "it was a rising" and

directed her to poultice it, after continuing to do this for several days, she and her husband became alarmed, and sent for me (she had never noticed any rupture before this, but it might nevertheless have existed a long time). At this time there was a tumor about $2\frac{1}{2}$ inches long, nearly egg shaped, with the apex towards the spine of the ilium, it occupied the left groin, and at its most prominent part, projected about $\frac{3}{4}$ inch above the surrounding integument. It was not tender on handling nor discolored; to the finger it felt firm and somewhat like an enlarged gland, there was no doughiness or elasticity, still in connection with the constipation, vomiting, hiccup &c, I felt satisfied that it was a hernia. I tried the taxis as long as under the circumstances I thought safe. And then considering that no purgatives had been tried, that she was free from pain, had no fever, passed her urine freely, while the tumor was not discolored or tender. I determined to try purgatives and enemata before resorting to the knife, I therefore with great care introduced about 18 inches of an oesophagus tube into the bowel, and then with an enema pump injected seven pints of warm water, holding in solution 3ijj Sulph. maj. This was mostly retained for about half an hour, when it was returned with a few small lumps of fecal matter. I left hydrg. sub-mur. gr. x. ext. hyos. gr. vi. in pills ij. to be given at 5½ P.M., followed in four hours by castor oil 3i. spt. turpentine 3i. and to be repeated every four hours, till three doses were taken, and directed that sinapisms be applied to the epigastrium to relieve the nausea.

The next day Oct 10th. I saw my patient about 11 A.M. Our enema and purgatives had been useless. She had not had any evacuation from the bowels. The nausea and vomiting with the hiccup, were continuous. The pulse was nearly imperceptible. The skin was cold; countenance bad; eyes dull and filmy, voice a mere whisper. It was evident there was no time to lose, and I regretted I had not operated on the previous visit, I however again tried the taxis for a few minutes, and considering the obscurity of the diagnosis, first directed my endeavours as for a femoral hernia, pressing downwards, supposing the gut had turned up over the edge of the femoral or saphenous opening after its

escape. But I could not move it. I then for a minute endeavored to press it upwards and outwards in the direction of the inguinal canal, but with equal ill success. It was therefore evident that there was no time to lose in adopting the only means offering any chance of life, and even for that I feared there was hardly time, or strength to rally after the operation. I had sent to the two nearest houses, to get help of some kind, but none could be had, and therefore alone and unaided, except by the husband, an ignorant man, who had enough to do to support her head and apply stimulants and restoratives when needed. I had to proceed to the operation. The cabin was low with no window, and with a wide low porch over each door, I moved the bedstead across one of the doorways, laid my instruments on a reversed half bushel placed on a chair, having to pick out my own instruments, do my own sponging, &c., and not feeling quite certain whether the hernia was femoral or inguinal. I made an incision about 3 inches long, down the centre of the tumor, and carried merely through the skin, (cellular tissue there was none) and then commencing at the centre of the first incision, carried another downwards nearly at the right angles thus T and dissected up the flaps. The skin, and the different investing layers were very thin, and the latter dark colored, and closely adherent to one another. I had great difficulty in laying hold of the sac, as there was no serum in it, and it was closely adherent to the bowels, though the adhesions were recent; but it had to be slowly separated, either with the director or the handle of the scalpel, upon opening the sac the bowel appeared tense dark colored, and full of fecal matter, and so dilated and flattened out, that it looked more like a mushroom or a button, the head of which was so large in proportion to the stem, that it was very difficult to get at the opening by which it had escaped, I drew the bowel slightly out, pushed in a finger, and finding the stricture to be at the superior falciform edge of the overlapping portion of the fascia lata femoris. I introduced a director and with a probe pointed bistoury directed upwards and slightly inwards towards the pubes, nicked edge of the fascia in two places, then slowly and easily emptied the tumor of its contents, the gut readily returned and having examined with my finger to

ascertain that there was no further obstruction, I left her for a few minutes (laying down the flaps, &c) to recover herself, and to recover myself, for the fatigue of body and mind had been great, both from the constrained position and defective light in which I had to operate, and from the consciousness that any sudden movement on the part of my patient, might cause me to cut what could not be repaired, added to the doubt whether she would not die under my hands. I gave her a little spirits and water and laudanum, then brought the edges of the wound together with 3 points of interrupted suture, put on a compress soaked in oil, a roller round the body and crossing the perineum and thigh, allowed her to rest half an hour, and then administered an injection of warm water, which after being retained some time was returned with feculent matter of a dirty light brown color, her pulse became fuller, and having placed her in an easy position, I left her as follows: cal. gr. ix. quinine gr. vi. morph. sulph. gr. i. in cht. iij., one to be given every four hours. Light diet and perfect quiet.

Though working almost in the dark, no large vessel was cut, as I made constant reference to the indications of pulsation as recognized by my finger in the wound, not one ounce of blood was lost, indeed, had any hemorrhage occurred, I know not how I could have stopped it, having no assistance, and my patient was so low, that she would have sunk under a small loss —after removing the instruments &c., and exposing the hernia, it presented a singular appearance from a kind of second and external stricture produced over its apex or point by a nerve or a band of cellular matter, forming a very distinct depression or second strangulation.

It has been stated by Scarpa, Skesselbach, &c., that in crural hernia, there are symptoms which especially distinguish it, viz "a sense of stupor and heaviness in the thigh, œdema of the leg and even the foot of the same side," and the reason given, the pressure of the tumor upon the crural vessels and nerves appears good and sufficient. But in this case no such symptoms existed. But Scarpa further remarks, "that in women however, it is less easy to distinguish the crural hernia from the inguinal, and that the

portion of the inferior pillar of the abdominal ring, which separates the opening from the internal and inferior angle of the crural arch is so slender in women, that it is sometimes hard to distinguish the crural from the inguinal hernia, which is not the case in male patients."

I saw my patient the next day, 11th, the bowels had been freely moved, she was indeed too much purged. But she had no fever, had eaten and slept, the wound looked healthy and healing, there was no tympanitis or abdominal tenderness.

Left opium gr. ij. cal. gr. ij. in chart to be given if too much purged.

12th. Patient looked much better, stools had been too frequent, but one of the powders had immediately checked them; she was cheerful, pulse natural, appetite good, tongue ditto. The edges of the wound seemed a little on the strain, I therefore clipped one of the stitches, the lips began to separate, and a sanguous discharge escaped. I then closed the wound with collodion and cotton, leaving room for discharge. There was some slight tenderness about the umbilicus, she had had no stool that day. Calomel gr. v, morphine $\frac{1}{2}$ gr. at night if uneasy. Oil in morning if bowels not moved.

14th. Mrs. R. doing well. No fever, appetite good, tongue clean, no pain or tenderness in abdomen, wound suppurating but gapes a little; strapped it up with adhesive plaster, and covered it with lint, spread with ungt. stramonii.

She perfectly recovered; but died nine months after, with every symptom of intussusception. No post mortem obtained.

S E L E C T I O N S .

Strychnine as a Poison—Trial of George W. Green for Murder.

At the December term of the Circuit Court in this city, Judge Morris, presiding, Mr. George W. Green was tried and convicted, on the charge of having murdered his wife, in September last, by giving her Strychnine for that purpose

By the testimony of various witnesses, it was shown that Green and his wife had lived unhappily together for several years; that she died suddenly, and was buried under circumstances, calculated to excite suspicions of crime, and which led to a coroner's inquest. Below, we give so much of the medical testimony, as relates to the Post-mortem appearances of the body of Mrs. Green, and the detection of Strychnine in the contents of her stomach. It should be stated, that owing to some misunderstanding in relation to some portion of the testimony, between the Judge and the council for the prisoner; a new trial has been granted to the latter. That part of the evidence to which we have alluded, is as follows, viz :

Dr. Max Myers called and sworn. Resides in this city; am a physician; was at post-mortem examination of Mrs. Green; the body was very much swollen, echinosis on the throat, extending about four inches; eyes swollen; tongue somewhat rigid; did not examine the position of the feet examined the uterus and the stomach; only saw the latter; Dr. Bird opened it; I took the scalpel and found some medicine and an appearance of cheese; the stomach was full or nearly so; from the condition of the stomach, the food had been taken some 12 or 15 hours previous; saw no symptoms of ordinary disease; found a foetus of four months in the uterus; saw no symptoms of natural death; from what I saw, could not give an opinion as to cause of death. The coroner brought a glazed jar; I told him to wash it carefully; he did so two or three times; I was very particular that it should be clean; it was a pickle jar. Know Dr. Morfit; he has gone to Washington.

By Mr. McIlroy—Discovered no indications of cholera; have had considerable experience in such diseases. No traces of inflammation on the mucous membrane of the stomach.

Cross examined by Mr. Arnold—Had considerable experience in cholera; cholera prevailed extensively and malignantly in this city in September—chances of recovery in a person taken with the disease, very slight.

The examination was on Monday about 1 P. M. Dr. Bird, the Coroner, Drs. Morfit and Freer and myself, were present. Mr. Ravel went with us to show us the house I merely directed the washing of the jar, it was a glazed earthen one. The spinal chord was not examined; I told Dr. Freer to examine it, because I wished the examination to be thorough. Had she died of strychnine, the spinal chord and brain would give the strongest indications; it produces contractions of the muscles, and acts powerfully on the spinal chord and brain. From the post-mortem could not say positively that strychnine caused her death. It is a remedy used for intermittents and neuralgia. Those diseases prevailed in this city somewhat extensively; it is a common remedy, first introduced by Dr. Brainard; have read the article in the Medical Journal from his pen. Since then it has been considerably used for a medicine

Strychnine and quinine look very much alike. An inexperienced person could not distinguish between them; I myself could not, by means of the *taste* alone. Strychnine taken into the stomach is absorbed very readily. After it has been resolved into its component parts, it may be reproduced.

Direct examination resumed—Strychnine is a very powerful poison. It is not as popular a remedy as formerly; it is usually given in solution, the usual quantity being from 1-12 to 1-8 of a grain. An inexperienced person would not put up 1-8 or 1 10 of a grain with exactness. It is not usual to give out strychnine in quantities of 4 or 5 grains, and leave it discretionary with the patient or family to divide it as they want it. It is sometimes given out, however, for external applications, and inserted in small incisions in the skin. It is as dangerous when thus used, as when used internally.

Cross-examination resumed—Strychnine ceased to become a popular remedy about the time of the publication of the article before alluded to.

(The stomach of the deceased, and its contents, were here sent for.)

Dr. J. V. Z. Blaney—Am a practical analytical chemist; have been practicing since 1841; have had considerable practice since that time. I received what I was informed was the stomach of the deceased, Mrs. Green, and its contents, about the 26th or 28th of September last; part of it had the appearance of undigested food; there were also some of the intestines. The undigested contents of the stomach were in a jar, closed with a cork.

The stomach itself was in another similar jar, and the intestines in a third. They were all closed with corks. I made an analysis of the contents of the stomach. In this I was assisted by my brother-in-law, Mr. Butler. By following the process of Professor Stas, of Brussels, I discovered what I was convinced was strychnine.

nine. (The doctor here minutely described the process to which he alluded) Suspecting the presence of an alkaloid in the contents of the stomach, I began by adding to a portion of these contents twice its weight of pure and very strong alcohol. I added afterwards 12 to 20 grains of tartaric acid, and introduced the mixture into a flask, and heated it to 150 deg. After it had completely cooled, I filtered it, washed the insoluble residue with strong alcohol, and evaporated the filtered liquid in vacuo. I then dissolved the residue in the smallest possible quantity of water, and introduced the solution into a small test tube, and added little by little of bicarbonate of soda, until the effervescence of carbonic acid ceased. I then agitated the whole with four or five times its bulk of pure ether, and left it to settle. When the ether, swimming on the top, was perfectly clear, the last step consisted in decanting it in a very dry place for spontaneous evaporation.

The evaporation of the ethereal solution left a milky-looking watery fluid, and this was evaporated to perfect dryness. Alcohol was added, which re-dissolved it. The spontaneous evaporation of the alcohol left a residuum of a yellow color, containing *minute crystals*, much contaminated with animal matter. Distilled water was now added, and the crystals washed. The water dissolved the coloring matter, &c., leaving the crystals in a state of purity. I then subjected the crystals to three different tests. I removed several of the crystals upon the point of a penknife, and dropped upon them a few drops of nitric acid. The result was the production of a lemon yellow color. I did not consider this test as entirely characteristic; but proceeded to remove other crystals as before. Upon these I dropped a little sulphuric acid, and added a little of the red prussiate of potash. On stirring this with a glass rod, a magnificent purple color was developed of considerable permanence, and very intense. This gradually passed to a crimson red, then to a scarlet red, which remained permanent for a number of hours. This last test is the one suggested by Dr. E. Davy, of Dublin, and is regarded as characteristic of the presence of strychnine. I treated another portion of the crystals with sulphuric acid, to which was added a drop of a solution of the yellow chromate of potash. In this solution the purple color was equally distinct, but not intense as was produced before, and was evanescent, the purple passing off rapidly, and being succeeded by a lilac color. These tests were made before the Coroner's inquest was held. I have since that time submitted them to other tests. I have examined them under a microscope of high power. By its aid I could perceive that when magnified to eight hundred diameters, they presented the appearance of four sided prisms, that being the form under which strychnine crystallizes. The liquid which drained from the crystals was intensely bitter. The capsule was placed under an air-pump.

The other substances were treated in the same way until I obtained the residuum from the evaporation of ether. The etherial residue, from containing a great deal of animal and coloring matter, would not yield the crystals. It was necessary to use further means to purify the alkaloid. The etherial residue was accordingly treated with dilute sulphuric acid, which would dissolve an alkaloid if present, forming a sulphate solution in water. Part of the coloring matter was thus left behind, and the solution was filtered. To the filtering solution of the sulphate was added pure carbonate of potassa. (Here the results of the analysis—crystals and precipitates—were brought into Court.) After neutralization with potassa; the mixture was introduced into a test tube, strong alcohol added, and the whole agitated. The alcohol was then poured off, and this was continued several times, until the alkaloid set free by the carbonate of potassa, was presumed to be dissolved by the alcohol. A sufficient amount of the carbonate of potassa was added to the sulphate to prevent mixture. This solution was evaporated, and gave a residue still colored, but which I rendered sufficiently pure by washing to enable me to apply the before mentioned tests, two of which, the tests of Davy and Laforte, are regarded as characteristic.

In one case, the washings of alcoholic residuum, after standing a number of days, formed a precipitate which I collected on this small filter, (shows filter,) and to this precipitate, which was not soluble in water, I applied the tests of Davy and Laforte. The tests acted characteristically. I also applied a further test, recommended in Soubeiran's Pharmacy. To the suspected substance, I added a drop of sulphuric acid, containing from one to five per cent of nitric acid. This was mixed with a glass rod. A minute portion of deutoxide of lead was added; and on mixing these, the same magnificent purple color, of great intensity, was instantly produced, shading away to lilac, red, &c., and more rapidly than in the cases of Davy's test.

The contents of this filter were then submitted to a microscope of a magnifying power of 800 and 1100 diameters. Under the latter, sides and angles showing crystalline forms were clearly discernable. In one of these crystals, I could discern a square figure which I presumed to be the base of a square based octohedron, and in which form, strychnine may crystallize. The portions submitted to the microscope were treated with a drop of acid solution, in which they were dissolved. On the spontaneous evaporation of this acid solution, fine radiating crystals were produced, of different forms from those exhibited formerly, proving salt formed which is characteristic of vegetable alkalies. I have examined the stomach but have not succeeded in obtaining absolute conviction in regard to the existence of strychnine in the tissue of the

stomach. (Exhibits capsules.) The quantity of crystals that I originally produced was sufficient to enable me to apply the three tests that I have mentioned.

The doctor here performed a variety of experiments before the jury, showing them the manner in which he had detected the presence of strychnine in the contents of the stomach. He places on the bottom of a small saucer, a portion of the precipitate collected from the filter. Adds one drop oil of vitrol. Mixes with a glass rod. Adds portion of red prussiate of potash in powder. It changes to a black or purple color. Mixes with a glass rod. Color changes from a crimson to a scarlet red. This is Davy's test.—Laforte's is by the yellow chromate of potash. Detaches crystal from the glass capsule, places it on the saucer. This test is very rapid. The color appears and instantly vanishes. I will use the same test applied to a precipitate. (Test successful.) Have no doubt as to the substance found in the stomach; believe it to be strychnine. It produces death from exciting convulsions, more particularly spasms of the muscles of respiration. Probably through its action on the spinal cord. Can't say whether it has an effect on the coats of the stomach or not. It is absorbed more or less rapidly according to the manner of administration, whether as a solid or in solution. It passes into the circulation. Its effects are the same when injected into a vein, as when taken internally. The portion that was active in producing death, might have been removed from the stomach by absorption. A person could not live many hours after taking a poisonous dose of strychnine. The question, what quantity of strychnine would produce death can only be answered conditionally. It depends on age, sex, sleep, fullness or emptiness of the stomach, and other circumstances. A half grain of the sulphate of strychnine is the smallest dose that I have ever known to produce death. This was the case of Dr. Watson, who died in fourteen minutes. In other cases, death has ensued in an hour and a half from taking three fourths of a grain. There are some external appearances which all physicians agree, are indicative of death by strychnine. Among these effects are rigidity, stiffness, locking of the jaws. The blood becomes black. This is also the result of asphyxia, or of strangulation. Discoloration of the eyelids and protrusion of the tongue, would be indications of death from asphyxia, whether from strangulation or any other cause. All these appearances might exist without the administration of strychnine. I would consider strychnine the cause of death, if found in the stomach.

The mass as brought to me was of a brick-red color. Bread, cheese, and tomatoes were found in it. It was a pastry mass, weighing probably two and a half or three oz. of solid matter. A healthy man might have digested such a supper as Mrs. Green ate,

in 4 or 6 hours. Strychnine in a medicinal dose, assists digestion. (Exhibits the two papers given to him by Dr. Bird.) One of these is marked "Quinine, 4 portions?" I think I added the interrogation point myself. This paper contains $2\frac{1}{2}$ or 3 grains, in powder—about a medicinal dose. I tested it by the new mode; the polarization of light. The other paper, marked Poison, in ink, I tested as before stated, and found it to be a heterogeneous mixture, apparently an adulterated specimen of strychnine. Brucine is almost always present in commercial strychnine. There are two kinds of strychnine known to druggists, the powdered and the crystals. This had the appearance of being composed of strychnine reduced to powder, and some other substance mixed with it. These are the papers I received from Dr. Bird. I have used about one-sixth of the quantity that I received, in experimenting and analyzing. The first taste of strychnine is extremely bitter; there is a second, indescribable, metallic taste, at the back of the throat, easily distinguished by the experts. This taste would be produced in every case where strychnine had been swallowed to the extent of $\frac{1}{8}$ th of a grain. The first taste of strychnine is somewhat like the bitter of hops. This taste might be disguised in ale or porter; but the second back taste cannot thus be disguised.

I always administer strychnine in solution. I used to mix it with starch in powder. I have never directed a patient to procure strychnine for himself, and will never do so. When I first got the stomach &c. from Dr. Bird, I placed them in a cupboard which I kept locked, and never left the key out of my possession. I was careful to place all the articles in peculiar positions, so that I could easily tell if they had been moved. When I took them to the Medical College, I observed the same precautions, and in addition kept them under seal. The door of the cupboard, the windows, and the door of the room were all sealed with two seals each. The seals remained unbroken, except in one instance where one seal on a door became loose, though the other seal on the same door remained unbroken. No one except Mr. Butler had access to this room. Except the man who made the fires in my presence, no one else entered the room.

Death from cholera would not produce any of the appearances that have been described in the case of Mrs. Green, except discoloration. The contraction of the muscles of the extremities might however have resulted from the cramps of cholera.

Cross examined—I stopped giving strychnine in powder, because some of my patients did not observe my direction. One man, with whom I left one grain of strychnine, divided into eight powders, took one, and finding that it produced no immediate apparent effect, took immediately the other seven. He nearly died, but came too again. In the administration of strychnine as a me-

dicine, I always state what it is, and enjoin the utmost care in its use. Most of the powdered strychnine sold is adulterated; the crystals, not so much so. There is not near so much adulteration in drugs now, as formerly. The medical profession, and also the Pharmaceutical, have taken such strong grounds against the practice, that it has greatly abated. I chemically determined the presence of strychnine in the paper, marked *poison*, but could not say what other substance it contained. It was not more adulterated than the commercial strychnine usually is. Dr. Bird brought most of the article to me at one time. My investigations would have been the same, had I not suspected the existence of strychnine. I first looked for an alkaloid in the stomach. Subsequent tests were used to discover strychnine. At the Coroner's inquest my attention was directed to a class of poisons that would produce death without vomiting. The post mortem examination did not suggest arsenic to my mind. The finding of the papers directed my attention to the propriety of searching for a vegetable alkali, although I would have done so had I not found these papers. I have read of a case where a dose of strychnine of a grain, twice a day, has been taken without fatal effects. The quantity which I took from the stomach was *probably* 1-20 of a grain. I have good reason to suppose there was more in the stomach; think I could swear so. I could not have got the whole quantity. Could not swear positively that there was 1-15 of a grain. The appearance of a body after death, caused by strychnine, would vary, owing to various circumstances. No definite conclusion could be arrived at as to the time the strychnine had been in the stomach.

Here the Court took a recess.

AFTERNOON SESSION.

Dr. Blaney cross-examined by defence—For intermittent fever, I should consider $\frac{1}{2}$ of a grain to an adult male, two or three times a day, a dose; to an adult female a somewhat smaller dose. I cannot state what were the causes of Mrs. Green's death, from the post mortem examination, further than a high probability that the deceased died of asphyxia; I could not swear as to the cause of her death; leaving out of view my discovery of strychnine in the stomach, I would not swear, from the post mortem examination that deceased came to her death from other than natural causes—stating at the same time the high probability that she died of asphyxia.

Q.—Would the existence of 1-15 of a grain of strychnine in the stomach of a deceased person, would that fact alone, authorize you to state that she died from the effect of that strychnine?

A.—No, sir; I consider I cannot swear positively to that which I do not absolutely know.

Q.—Those tests of strychnine by you may be classed under "taste, color, and form" under the microscope?

A.—Yes, sir. Strychnine does not always present the same form of chrystralization when produced under different circumstances, but it is a very common thing for substances to crystallize in *compatible forms*; I have never been able to measure the angle of the chrysrals found. The form of chrysrals, when taken by themselves, is not sufficient to base an opinion; no one test by itself is sufficient to establish the conclusion; an accumulation of probabilities is all chemists ever claim, though we have a moral certainty; do not consider the forms of the chrysrals in this case as establishing the presence of strychnine; should regard the "bitter taste" of the substance analyzed in this case the weakest test of all; in this case I mainly rely upon the tests of color; my chrysrals were broken, and I could not measure the angles, else I might have arrived nearer to absolute certainty.

Q.—Independent of the tests of color, would you swear to the presence of strychnine?

A.—No. The number of alkaloids is numerous; many not yet discovered, without doubt; "alkaloid" and "vegetable alkali" is the same thing; morphia, brucia, strychnia, narcia, quinia, are all alkaloids; there are various others; all these are of the same class; strychnine, quinia and morphia have the property in common of forming salts with acids, and are derivable from vegetable substances, all bitter, all white when pure in powder or chrystral; carbon, hydrogen, oxygen, and nitrogen, are the elements of all these; all these elements are found in the stomach of the human body.

Q.—How recently have discoveries of a vegetable alkali been made?

A.—We scarcely receive three or four medical journals without learning of a new alkaloid; these tests of color are characteristic of strychnine, but it is not yet established that there may be no alkaloids of which they are not also characteristic. But they are characteristic of no alkaloids now known save strychnine.

Q.—Would you have been better satisfied in this case if you could have made more extensive researches?

A.—I would have been glad to have made more researches, to ascertain if there be a vegetable alkali in the *tomato* found in her stomach. *I could not swear that there was not a vegetable alkali in tomato.*

Q.—Are not tests once believed to have yielded certain results, sometimes found to have been erroneous?

A.—Yes; positive tests forever remain, but there are tests that prove unreliable.

Q.—If you should discover any other substance which would

respond to the tests used, would it not be necessary to look for further tests?

A.—We should use the same tests, but look further for tests to distinguish between them.

In Nature the variety of substances are infinite; in the laboratory of nature, there are substances all around that produce these colors of which I have spoken in my report of this investigation; there are a great variety of substances, the combinations of which would produce the colors alluded to.

Q—Is Orfila considered as a high authority in medical science?

Ans—He stands among the first.

Q—Do you remember of any trial where a chemical analysis by Orfila proved erroneous?

Ans—I remember reading a case some eight years since in which some errors of analysis were found because of an insufficient quantity of material being submitted to examination.

The tests of color to which I have referred in my examination were first brought to my notice in 1853: Davy's test is the most recent; Lafortes was known before, so was the test by peroxide of lead; until within five or six years the distinctive characteristics of strychnine were upon taste, crystalline form, &c. The process through which I passed in the examination of this case was tedious, but not complicated. The great care I used in my investigation was to prevent the possibility of the introduction of any substance containing the slightest presence of alkaloids; I did this that the prisoner might not unjustly suffer from a mistake of the chemist; without extraordinary precautions there would be danger of error; this is the first case where I have used the same process in the manner detailed now.

Direct resumed—My reasons for declaring that I believe the amount of strychnine found by me in the stomach of deceased was not the whole quantity taken, are several; all the contents were not submitted to analysis; it is supposed from the length of time believed to have intervened between taking the strychnine and death, that a portion of the strychnine must have been absorbed from the stomach before death—In a stomach that was full the amount of absorption would be less because of the dilatation, &c. I have never known strychnine administered for cholera or cholera morbus.

Q—Taking into consideration the post mortem examination, the fact that strychnine found in the stomach, and that corresponding poison was discovered in the house where Mrs. Green died, what is your opinion as a medical man of the cause of her death?

Question objected to.

Q—Taking into consideration the post mortem examination as

detailed by the witnesses, the fact that strychnine was found in stomach, and that the corresponding poison was discovered in the house where Mrs. Green died, what is your opinion as a medical man of the cause of her death.

Question objected to by defence. Objection overruled. Counsel for defence except to the ruling of the court.

Ans—A high probability that she came to her death from the effects of strychnine.

Q—Are or are not medical men usually satisfied that death was caused by poison unless presence of poison is detected in the system by chemical analysis?

Objected to and objection sustained.

Q—Do medical men generally form opinions in relation to death by poison unless they have detected the presence of poison in the system?

Objected to and objection sustained.

Q—Would you be satisfied death was occasioned by poison unless on chemical analysis poison was found in the system?

A—Cases would be exceedingly rare; I consider a chemical analysis the most satisfactory test; taking all the tests I have resorted to in this case, I have no doubt death was caused by strychnine: There is no proof that strychnine is an irritant—it is a vegetable poison; brucia and strychnine are both extracted from the nux vomica, they are known as alkaloids; the irritant properties of nux vomica lie in other substances contained in it rather than strychnine; there has never been discovered a poison possessing precisely the same chemical properties as strychnine; in this investigation I have applied all the tests known to chemists, as far as my knowledge extends, except the measurement of the corners of the angles, which I was prevented from doing by the crystals being broken.

Q—Is there more difficulty in detecting the presence of strychnine than of other poisons?

A—It is much more difficult to detect the presence of vegetable than of mineral poisons; carbon, hydrogen, oxygen and nitrogen, are the constituents of the alkalies; the most active medicinal substances contain all four elements—strychnine contains all four.

Q—Do each of the chemical tests applied by you give distinct, independent and corroborative evidence of the presence of strychnine.

Objected to and sustained. (The objection was subsequently withdrawn.)

A—The tests except those of color were corroborative without being distinctive.

Q—Is there any other substance known to chemical science which gives the same color as strychnine does, on the application of either of the tests you applied?

A—None to my knowledge. Taylor on poisons is a work of high character in our profession; Orfila and Chitty (upon law) are also good authorities.

B. F. Butler called—I assisted Dr. Blaney in the investigations he has detailed here; I had access to the analysis and saw that every precaution was taken; while I was in the building all the doors were locked; the door of the room in which the analysis was carried on was locked on the inside, and I had the key.

Dr. Freer called—I assisted in the post mortem examination of Mrs Green; am demonstrator of anatomy in Rush Medical College; I noticed the general appearance of Mrs. G.; noticed a discoloration that is exceedingly common in dead bodies at that period; the eyelids were distended, and there was a general puffiness of the body; the brain, lungs and heart were healthy; the heart was very empty, as were the large vessels near; it is seldom we can examine those organs in the living body; suppose my experience is rather extensive; I saw no indications of cholera; if strychnine has been discovered in the stomach I should hesitate to ascribe death to strychnine; strychnine may have been given by medical men and might be found in the stomach.

BOOK NOTICES.

Transactions of the American Medical Association, Vol. VII.

In a previous No. of the *Journal*, we acknowledged the receipt of this volume, and promised a more extended notice of its contents.

The address of Dr. Parsons is short, but appropriate to the occasion. It alludes to the future of the Mississippi Valley as the grand theatre of human progress, and thus remarks:

And in no department of human affairs is progress here more sure than in medical knowledge. Our Atlantic States have inherited a reverence for European opinions, which, although commendable in our early medical history, is at the present day less favorable to American progress and discovery in medicine. We need to interrogate nature and experience more, and European opinions less. We need mental as well as political independence, a freer swing of thought and purpose that characterizes our brethren of the West, and which this Association is adapted to call into action.

There is much to encourage you in your recent discoveries and contributions, in the results of the vivisections of saurians, the half of which, if confirmed by future experiments, will shed new light on physiology; and again, in the discoveries made relating to the process of digestion by your late lamented Beaumont, of St. Louis, who, for the theories and speculations before prevailing, has substituted ocular demonstration of the modus operandi of that wonderful process, by submitting to it the various articles of human aliment, and determining the length of time required for converting each into healthful chyme; and again, in the successful labors of Drake in traveling from State to State throughout the valley, collecting the history and character of its epidemics by personal inquiry and observation. Others of your venerated dead might be mentioned, who have pursued a like independent course untrammeled by European authorities. Of their immediate successors who now stand at the head of their profession, it would ill become me to speak, seeing that some of them are present and unused to such freedom of remark. But to the junior

members of the profession we would say, "Unite with us—follow the example of the distinguished pioneers I have named, and of Caldwell and Harrison, who have gone to their reward; throw the results of your labors into the common stock of medical knowledge accumulated by this Association, where rest assured that they will be duly appreciated to the common benefit of the profession, and of mankind, and redound eventually to your everlasting honor and professional fame."

These paragraphs are suggestive of the duty which western physicians owe to the profession and to themselves. It is here in the great central region of the continent that the national character is to be developed, that American literature is to assume its distinctive features, and scientific research be directed to specific objects. This is no vain boast. The unparalleled growth of the past clearly indicates it, the physical geography of the region makes it certain. The Mississippi river, extending from the gulf to the extreme north, with its tributaries, embracing the Alleghany and the Rocky Mountains, is a huge giant, folding in its arms the wide prairies teeming with the most luxuriant vegetation, the fairest maiden that the rays of the sun have ever warmed into life and beauty. From the Alleghany to the Rocky Mountains, the whole country is a unit; although vast in extent, the facilities for communication even now are easy and abundant, and will be still more so. This fact, in connection with the natural resources of the country, must develop here the highest American civilization and the truest and noblest progress in science; and to our hands, as Western physicians, are committed, in a great measure, at least those influences which, though now feeble, must ultimately give character to the American Medical profession. While we acknowledge this responsibility, and regret that we are so poorly prepared to meet it, we point with pride to what has been done for the advancement of our science, even in the infancy of our professional life, and hail it as an earnest of what shall be accomplished in the strength of our manhood.

The next paper is the report of the committee on medical education, furnished by Dr. J. L. Cabell, the chairman. The committee in this report have confined their attention to such measures, prospective or established, in reference to medical education,

and the reputable standing of the profession as they have deemed worthy of special consideration, and which are embodied in the following resolutions :

1. *Resolved*, That the views and recommendations heretofore expressed by this Association, respecting the importance of establishing a uniform standard of preliminary education, of extending the terms of lectures, and especially of greatly elevating the standard of professional attainments requisite to graduation, be hereby reaffirmed.

2. *Resolved*, That this Association approves and recommends the practice of daily examinations by each professor, as essential for securing "that active, practical discipline" of the mind which is one of the most important ends of collegiate instruction; and believes, not only that such a system might be easily put into operation, under an extension of the terms of lectures, but that the whole ground-work of elementary medical instruction might be most aduahtageously assigned to the schools which may adopt that system, as a substitute for the very faulty one of private office instruction now in common use.

3. *Resolved*, That this Association cordially approves of the establishment of "private schools" duly organized for giving that species of instruction which consists "in demonstrations" and other practical exercises "on the part of the student, instead of the instructor, but still under his direction and superintendence," embracing the whole circle of clinical observation and practice, the use of the microscope, chemical manipulations, and the performance of surgical operations on the dead body; and would earnestly recommend such institutions to the patronage of those graduates who did not enjoy similar advantages during the period of their collegiate pupillage.

4. *Resolved*, That those medical colleges whose curriculum does not now include full courses of lectures on physiology and medical jurisprudence, be earnestly invited to make immediate provision for supplying the deficiency, and to require the professor of physiology to make an exposition of the outlines of comparative anatomy, to such extent, at least, as may be necessary to enable the student to appreciate the force of the evidence upon which the modern doctrines of physiology mainly rest.

5. *Resolved*, That to insure the efficient and beneficial operation of the proposed measures of reform, the Association considers it essential that some uniform system of examining candidates for admission into the ranks of the medical profession, *in addition to the collegiate examinations for degrees*, should be adopted in all the States of the Union.

6. *Resolved*, That the Association regards as auspicious omens

of future progress the already improved character of our medical literature, and the evidence of an increasing desire, on the part of a respectable number of medical students, for a higher grade of professional education, as exhibited in the patronage extended to extra-collegiate organizations for practical teaching; and that, in view of such encouraging signs, it cherishes an abiding conviction that more thorough and general reforms will be ultimately, though gradually, accomplished.

In reference to the first resolution the convention held at Philadelphia in May, 1847, adopted the following standard as one which might reasonably be expected of every young man who should apply to be received as a student of medicine, "a good English education; a knowledge of natural philosophy, and the elementary mathematical sciences, including geometry and algebra, and such an acquaintance at least with the Latin and Greek languages, as will enable the student to appreciate the technical language of medicine, and read and write prescriptions."

This is certainly a reasonable requisition, but we cannot hope in the present condition of the profession that it will universally or even generally be adopted. We cannot expect that physicians will require a higher standard of their pupils so far as preliminary education is concerned, than that to which they themselves have attained. The standard of professional knowledge and ability in the other professions, is regulated by the demands of the public. Such ought to be the case in medicine, and such would be were it not so difficult for the public to judge of the real capacities and attainments of the physicians. The advantages of a thorough course of mental training, combining the study of the languages of science with the severer discipline of the mathematics, as preparations to professional study can hardly be appreciated by those who have not enjoyed in them. Why, then, have not our colleges whose faculties may be supposed to understand these matters, placed the proper sentinels at the entrance of our threshold, thereby preventing the sacredness of our temple from being profaned by disgraceful ignorance? It might require a sacrifice; it probably would for a season, but the honor of a noble profession and the interests of humanity are at stake.

We would not be understood as acknowledging that medical men in this country are lacking in natural ability, or even in independence of thought. On the contrary we are perfectly certain that the ranks of our profession are constantly being filled up by young men of superior qualifications, many of whom in time, notwithstanding the deficiency of their preparatory studies, attain to an honorable distinction among us, for their cultivation of the science and their skill in the art of medicine. But as a body we are not what we should be—not what we are capable of being. The recommendations of the American Medical Association so far, have been almost a nullity, and for the simple reason, as we believe, that public opinion both in and out of the professional ranks, has not yet raised the standard of attainment by which, as physicians, we are to be tried and judged.

In view of the little that has been done towards correcting this evil, the committee enquire—

Is there, then, no remedy for an evil which has done so much to dishonor a profession once noted for the profound and varied learning of its members? Your committee are of opinion that it would be premature to come to so discouraging a conclusion. They do not yet abandon the position which was ably sustained by the late Dr. Parrish, in a report made to the Philadelphia Convention, that "the influence of combined and harmonious action, directed to a special object, by the great body of the profession, is a power more potent than that exercised by legislatures, or by the corporations they may create." The operation of such an influence is, however slow, and we should not be impatient if ample results are not rapidly attained. One of the instrumentalities through which it operates is gradually being brought to bear upon the solution of the difficulties which thwart the attempts that have hitherto been made to introduce this and other measures of medical reform. We allude to the organization of State and County Medical Societies, the manifold usages of which agencies are too obvious to require exposition.

The question of the propriety of lengthening the term of lectures in our colleges is discussed at length by the committee. This involves the question of teaching by private instruction mainly, or in the college and hospital. We cannot forbear quoting that portion of report relating especially to this subject. After alluding to the recommendation of the association at previous meeting, that

the lecture term be increased to six months instead of four, they say :

A few of the schools promptly complied with this recommendation, but a part of them, as we are informed, have since it found it expedient to abandon the experiment, and to resume their former practice. This fact illustrates the difficulty attending every attempt to carry out any very decided measure of reform, on the part of a few of the schools, while the majority refuse to co-operate. Unfortunately, there exists a difference of opinion as to the advantages of the proposed extension of the term. It will be remembered that the Medical Faculty of Harvard University, presented to the Association, at its second annual meeting, held in Boston in 1849, a formal defense and advocacy of the four month's course, in preference to a more extended term. The faculty of the Medical Department of Pennsylvania Colleges, in replying to a circular of the Committee on Medical Education for the same year, appear to have taken a similar view. They assume that the "American System" of medical education consists in the instruction derived from "private preceptorship mainly," with the college and hospital as its complement; and argue that "either we should labor to perfect that system according to its idea, or we should abandon it for another as radically wrong. Any attempt to alter or amend it, according to an essentially distinct plan, will prove a ruinous patching." They further express the "fear that the recent so-called reform agitation tends to loosen the connection of the preceptor with his pupil, and to lessen his responsibility without adequately supplying the loss;" and contend that "such must be the effect of any considerable increase in the course of lectures." The Committee do not deny that there is some plausibility in this view of the subject, and that some of the arguments advanced have force in their application to the prevalent system of medical education in this country; but they are far from acquiescing in the conclusion that no reform in this respect is needed. They would rather adopt the alternative presented in the argument last cited, and conclude a system which regards the plan for instruction by public lectures "as subordinate and subsidiary" to private instruction, "as radically wrong." This system takes it for granted that even the first-course students have "read" with a private teacher, prior to their attendance on lectures. But when it is borne in mind that the fundamental branches of medical science, on which the whole superstructure of medical education must rest, are precisely those which require, for their proper and successful exposition, the use of such appliances of demonstration as can be supplied by public institutions alone, it will be admitted that such preparatory "reading" is not always advantageous, and may be

are termed "college clinics." But even where no other impediment hinders the students from visiting the hospitals daily, those who attend six lectures each day in the college, and are also engaged in the study of practical anatomy in the dissecting room, can find little time or disposition for such clinical observations as will be of any value to them. Hence, it is only the small minority who remain in the city during the summer and autumn that truly derive any profit from the facilities for clinical observation which the city hospitals may afford.

' We have almost invariably found that, among even this class of students, only those who have previously graduated can be induced to read, in connection with their clinical observations, the class of books which constitute the elucidators of disease. The undergraduates feel themselves constrained, by the prospect of a coming examination, to confine their reading mainly to the elementary text-books. In view of such facts, your Committee express their hearty concurrence in the position taken by Dr. Pitcher, in his report, and indorsed by the vote of the Association,—"That a familiar knowledge of the elements of medical science should precede clinical instruction." This course is practically adopted by a large number of the better class of medical students, who pursue clinical studies for a period of from one to three years after graduation, either in the hospitals of our own cities, or partly here and partly in Europe. Having dissolved their connection with the schools, in which elementary instruction alone can be adequately given, and in which the second-course students pursue precisely the same studies as those who are attending lectures for the first time, they properly lay aside elementary books, and substitute, in addition to systematic "Clinical Guides," the published records of the clinical observations of those careful and reliable observers who have done so much towards giving precision and certainty to modern pathological doctrines, by authenticating the data upon which they are based, and clearing away the immense rubbish of "false facts" which, as much as aught else, had retarded the progress of medicine as a positive science. By the aid of such accurate clinical reports, carefully studied in connection with the actual observations of cases at the bedside, the intelligent and earnest pupil may add to his own personal experience that of all the eminent clinical reporters whose works he may read. The descriptions there given of the daily progress of the symptoms, and the effects of remedies, can scarcely be appreciated without the aid derived from an examination of cases of the actual disease; but with this aid, that familiar law of our mental organization in accordance with which vividness is imparted to our conceptions by being associated with sensible objects, is brought into operation, and the reported cases rise before the mental vision with the clearness and distinctness of reality.

tary principles of the medical sciences. In this view of the subject, the Committee are inclined to believe that very great advantage would result from an extension of the course of lectures to even a longer term than that heretofore recommended by the Association. In addition to the very obvious evil of crowding six or seven lectures into the compass of a single day, another striking objection to the present system lies in the fact that the practical branches of medical science are of necessity unfolded to the student before he has had an opportunity of becoming acquainted with the elementary principles upon which they are mainly based. For example, his attention is directed to, and his mind bewildered with, an intricate account of the causes and varieties of convulsive diseases, before he has obtained any useful degree of knowledge of the anatomy and physiology of the nervous system, upon which the prevalent doctrines as to the pathology and rational therapeutic indications of such diseases entirely rest. If the term of lectures were extended, it would be possible to diminish the number of lectures for each day, and to make such a distribution of the several branches as would insure an opportunity for the thorough study of the anatomy and physiology of every organ, before the attention of the student should be directed to its pathological states, while several hours would be appropriated to private reading and reflection, and to the practical study of anatomy by means of dissections by daylight.

Regarding, then, "the American System" of medical education by "private preceptorship mainly," at least as that system is carried out in the rural districts, and consequently, for a large majority of American students, "as radically wrong," your Committee would advocate the substitution of a plan which would bring the whole circle of elementary medical education within the province of the schools."

We have only space to refer to that part of the report in which the value of clinical instruction is discussed. We extract it entire:

"4. The profession objects, with much reason, to the entire neglect or very imperfect use of clinical instruction in many of the medical colleges of the United States. As respects some of these institutions, the defect is irremediable, owing to their location in villages too small to furnish subjects for hospital practice. And in some of our larger cities, the seats of the oldest medical colleges in the Union, the hospitals are either entirely inaccessible to the student, or are opened to him under such restrictions as to make it a privilege of little value. In such cases, the schools have been driven to the necessity of finding a substitute in what

injurious. A medical student, reading in the office of a physician residing in a rural district, cannot enjoy the advantage of studying practical anatomy. Hence, most of his reading is on the subjects of practical medicine and surgery, in which he forms the most vague and erroneous notions with regard to the structure and laws of action of the organs, the diseases of which he is studying; and such notions do not always easily give place to the simple truth, when this is subsequently presented. In cities and the larger towns, the case is admitted to be often different. There, the pupils may have access to hospitals and dissecting rooms, and there, too, organized voluntary associations of private teachers supersede, almost wholly, the old system of instruction by a single teacher. Such associations are, however, medical schools in all but the name, and thus do not, in point of fact, constitute a real exception to the principle on which we would insist. Not being entitled to confer the diploma, and basing their claims on the confidence and patronage of the more aspiring students, or the thoroughness of the instruction they offer, many of them give a more full, and especially a more practical course than is required in the regularly incorporated medical colleges. Such private schools are admitted to be most valuable auxiliaries in the cause of medical education, and are entitled, in the opinion of the Committee, to an encouraging notice from the Association. It would, however, be wise, in view both of a judicious economy, and of the likelihood of thereby insuring the largest amount of practical benefit from the educational instrumentalities at the command of the American medical student, to assign to these auxiliary organizations such work only as cannot be adequately performed by the incorporated schools with larger classes,—“such as demonstrations on the part of the student, instead of the instructor, but still under his superintendence and direction;” the actual performance of surgical operations on the dead body; chemical manipulations; the use of the microscope; and clinical instruction, truly so called, which is the study of diseases at the bedside, cases being watched from commencement to end, with special attention to the use of the physical means of diagnosis in diseases of the lungs and heart. Such instruction as this is of inestimable importance. It cannot be given by lectures alone. The student must practice for himself, under the supervision and direction of a competent teacher; and only a class of limited number can receive adequate attention from one instructor. Such instruction should, therefore, be the appropriate work of a corps of teachers auxiliary to the public schools. From its very nature it can be profitable only to advanced students. In the opinion of your Committee, it should follow, rather than precede or accompany, the instruction imparted in the public schools. The latter should consist mainly in a didactic exposition of the elemen-

"In immediate connection with this topic, the Committee would again invite the attention of the Association to the importance of other branches of medical science which may be studied practically. We may specify practical chemistry, the use of the microscope as an instrument of research, and as furnishing data upon which a differential diagnosis may be based, practical midwifery, and operative surgery. It is a fact which may well elicit our mutual congratulation, that efficient instrumentalities for thorough practical instruction in all these branches, are being brought into operation in various parts of the Union. The advertisement of "the New York Preparatory School of Medicine" is now before us. Such associations, if they fulfill their promise, will deserve the encouragement of the profession. We think, however, that the use of the term "preparatory" may mislead the public, to the detriment, perhaps, of these auxiliayr schools. All instruction received by a pupil is preparatory to the great business of life ; but in no sense can such instruction as these schools propose to give, be considered preparatory for that of the incorporated schools. The latter is elementary, and should precede the practical. We shall presently consider, under another head, the objection that may be raised on the score of the difficulty of inducing many students to apply for such instruction, after having received the diploma which entitles them to practice medicine and surgery."

EDITORIAL.

Small Pox.—During the first week in January, cases of small pox occurred in our city, in such numbers, and simultaneously in so many different localities, and among so many classes of people, as to leave but little doubt that they depended, in part at least, on a true epidemic influence. And judging from the character of the cases which occurred in those not protected in any degree by vaccination, we think that without the influence of the latter on the great mass of the people, we should be to-day in the midst of as loathsome a pestilence as ever afflicted the cities of Europe during the middle ages. It was this disease which caused the death of the two medical students, whose early departure from the scenes of life, is appropriately noticed in the preamble and resolutions which follow.

The extent of its prevalence, will be more fully noticed in our next number.

Obituary Notice—

At a meeting of the students of Rush Medical College, held January 25th, 1855, L. H. Kennedy, M. Davis, James L. Suddeth, John McHugh, and W. B. Cooper, who had been previously appointed a committee to draft suitable resolutions relative to the death of M. A. Warson, and G. C. Hughes, reported the following preamble and resolutions, which were unanimously adopted:

Whereas it has pleased Almighty God, in His wise Providence, to remove from our midst, our worthy and highly esteemed friends and class-mates, M. A. Warson, and G. C. Hughes. Therefore,

Resolved, That we deeply feel the loss of our deceased class mates who, by their upright moral conduct, and gentlemanly deportment, had endeared them to all with whom they were associated.

Resolved, That in their death, this class is deprived of two worthy members, the profession of devoted students, who, had life been prolonged, bid fair to become honorable members of the profession they had chosen.

Resolved, That we deeply sympathize with their relatives in their bereavement, and while we mourn their loss, may we be reminded that we, too, are travelling to that "land of deepest shade unpierced by human thought."

Resolved, That the thanks of this class be tendered to their room mates, for the untiring attention they bestowed during the affliction of our deceased friends:

Resolved, That we hereby tender our thanks to Professors Davis and Freer, for their constant attention during the illness of our deceased class-mates, and deep solicitude for their welfare, also for their presence and kind assistance at their funeral.

Resolved, That these resolutions be published in the North Western Medical and Surgical *Journal*, and the Chicago Daily *Journal*, and that a copy of the same be sent to their relatives.

C. GOODBRAKE, Chairman.

R. S. HITT, Sec.

To Readers.—The valuable contribution of Dr. Williams, and the Medical testimony in the case of Green, filled so much more space than we expected, that several articles are crowded out.